

Chapter 6

Technostress: The Dark Side of Technologies

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6.1 Conceptualizing Technostress Experiences

Internet, Wi-Fi, teleworking, e-economy, and the information society are all familiar concepts nowadays. Technologies have become part of our private and public lives. In the workplace, these technologies have been introduced in most socioeconomic sectors, as well as in all functional areas of modern organizations. Data from European surveys reveal that 74 % of workers in European countries use technologies in their daily work and 93 % use the Internet in different facets of their lives (see Llorens et al. 2011). However, although organizations recognize the benefits of using technologies to increase business competitiveness and promote economic prosperity, the use of those technologies can also produce serious disadvantages, like technostress, as a job stressor in the workplace.

The concept of technostress was first coined in 1984 by Craig Brod (1984) in his book *Technostress: The Human Cost of the Computer Revolution*. Technostress was defined as a modern disease of adaptation caused by an inability to cope with new computer technologies in a healthy way. For Brod the technostress is a form of adaptation disorder. Since the original concept of technostress was put forward, different definitions have been developed that include psychological, physical, or behavioral strain responses to technostressors. For example, Wang et al. (2008, p. 3004) defined technostress as a “reflection of one’s discomposure, fear, tenseness, and anxiety when one is learning and using computer technology directly or

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indirectly, that ultimately ends in psychological and emotional repulsion and prevents one from further learning or using computer technology."

Based on workplace contexts, Salanova and colleagues (Salanova et al. 2007, 2013) proposed a more operational definition of the technostress experience in the workplace. They defined technostress at work as a negative psychological state associated with the use (and abuse) of technology as well as the threat of technology use in the future. Moreover, technostress is related to a mismatch among demands and resources related to technology in the workplace. This experience is related to negative psychological experiences such as feelings of anxiety, mental fatigue, skepticism, inefficacy beliefs, and addiction to technology. The novelty of this definition is that (1) technostress is seen as a negative psychological experience; (2) technostress does not occur as a result of the negative impact of technology per se, but depends on the relationship between demands and resources; (3) technostress is extended to the use of technology in general (e.g., computers, tablets, smartphones, videogames, e-mail, social networks); and (4) two different technostress experiences should be differentiated: technostrain and technoaddiction.

6.1.1 *Technostrain: Feeling Anxious with Technologies*

Technostrain could be considered a negative psychological experience composed of (1) high levels of anxiety and fatigue (affective dimension), (2) skepticism (attitudinal dimension), and (3) inefficacy (cognitive dimension) related to the use of technology (Salanova et al. 2013). As shown by the results of a review of "technostress" from 1982 to 2012 in the PsycINFO database, around 90 % of the publications are specifically related to technostrain experiences (521 articles). This provides evidence that technostrain is the most traditional type of technostress experience.

According to previous research, the technostrain experience is commonly determined by high levels of anxiety, that is, by high physiological activation, tension, and discomfort with regard to technologies. Experiencing anxiety includes the fear of hitting a wrong key and losing information, doubts about using computers for fear of making a mistake, and finding computers intimidating (cf. Ragu-Nathan et al. 2008).

Secondly, users also feel lower levels of psychological activation, i.e., mental fatigue. One of the special experiences of fatigue is information fatigue syndrome (IFS), which derives from the current requirements of the information society and from dealing with information overload (Lewis 1996). The consequences of IFS are related to poor decision-making, difficulty in memorizing and remembering, and reduced attention span.

The third component in the technostrain experience is skepticism, which refers to the attitudinal dimension of the syndrome. The term skepticism is based on studies conducted on job burnout, specifically on the burnout dimension of "cynicism." Skepticism, as a dimension of technostrain, is defined as the display of indifferent, detached, and distant attitudes toward the use of technology. More

specifically it is a feeling of cognitive distancing that consists in developing indifference or a cynical attitude when users are exhausted and discouraged due to the use of technology (Schaufeli and Salanova 2007).

The last dimension of technostrain is inefficacy beliefs about the right use of technology. Previous research has shown that technology-related self-efficacy influences the choice of whether to use technologies or not, the expenditure on effort and persistence, and the performance achieved with the use of technology (Bandura 1997). In fact, technology self-efficacy has proven its role in enhancing motivation in the use of technology and moderating the levels of job burnout (Salanova et al. 2000) and anxiety related to technology use (Henderson et al. 1995).

This multidimensional model of technostrain was tested in a sample of 1,072 ICT users ($N = 675$ non-intensive ICT users and $N = 397$ intensive ICT users) (Salanova et al. 2013). Results from multigroup confirmatory factor analyses among non-intensive and intensive ICT users showed, as expected, the four-factor structure of technostrain in both samples.

6.1.2 *Technoaddiction: Being Abusive with Technologies*

According to the World Health Organization (WHO) (Arias et al. 2012; Kessler and Ustun 2008), the abuse of technology has increased and one out of four people is suffering from addiction to technologies in one way or another in 2008. The concept of technoaddiction is based on the literature on workaholism, i.e., the tendency to work excessively hard in a compulsive way (Libano et al. 2010). Workaholism and technoaddiction might go together, as there is a connection between working excessively and the use of technology (Porter and Kakabadse 2006).

Technoaddiction is defined "as a specific technostress experience due to an uncontrollable compulsion to use technology 'everywhere and anytime' and to use them for long periods of time in an excessive way" (Salanova et al. 2007, p. 2). People experience technoaddiction when using technology not for pleasure or satisfaction but from an internal impulse through which they feel compelled to use it and keep up to date with the last technological advances. In fact, they become psychologically dependent on the technology and, consequently, technology becomes the only relevant thing in their lives. This psychological dependence results in an individual's inability to live without technology, without their mobile phone, without checking their e-mail all day long, without being connected to the Internet anytime and anywhere, without their social networks, and so forth.

To sum up, recent research shows that technoaddiction is characterized by (1) "compulsion" in the use of technology, i.e., the person is obsessed with technology and persistently and frequently thinks about/uses it; (2) "excessive use" of technology, i.e., they tend to allocate exceptionally large amounts of time to using technology; (3) they feel anxious when they are not using it; and (4) fatigue related to using technology in excess (see Llorens et al. 2011; Salanova et al. 2013).

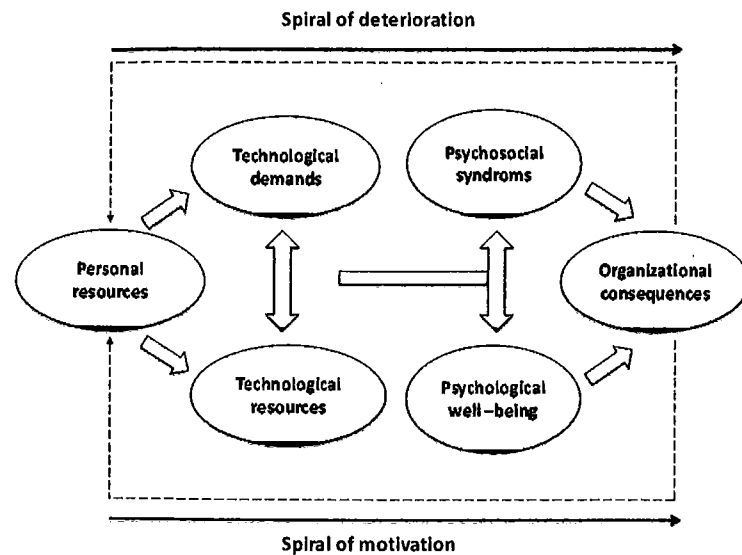


Fig. 6.1 Spiral Model of Occupational Health (SMOH)

6.2 Predictors and Consequences of Technostress

Several theoretical models in Occupational Health Psychology may be useful to understand the process of technostress (e.g., Lazarus and Folkman 1984), but we explain the antecedents and consequences of technostress based on the Spiral Model of Occupational Health (SMOH; Salanova et al. 2007, 2009). Generally speaking, the SMOH Model displays the following characteristics (see Fig. 6.1):

1. According to WHO, health is a state of complete physical, psychological, and social well-being, and not just the mere absence of illness.
2. The model is grounded in Positive Occupational Health Psychology (POHP), since it tests psychosocial health in a holistic, comprehensive way that encompasses not only the assessment of psychosocial distress (e.g., technostress) but also well-being (e.g., technoflow).
3. The technostress experience is explained by a negative spiral of deterioration (i.e., a vicious spiral) which is determined by low personal resources (specifically, low technology self-efficacy). These resources enhance the perception of high technological demands and low technological resources, which in turn gives rise to psychosocial syndromes (e.g., technostrain), negative organizational consequences (e.g., low performance), and so on.

Based on the key dimensions of the SMOH Model, the main determinants of technostress (technological demands and lack of technological and personal resources), as well as their consequences, are described below.

6.2.1 Technological Demands and Technostress

Technological demands are defined as “those physical and/or psychological, social and organizational aspects related to technology that require a sustained physical and/or psychological effort from the worker, and which are associated to certain physiological and/or psychological costs” (Llorens et al. 2011, p. 53). Based on the SMOH Model, we can distinguish four types of technological demands, which are detailed below.

First, technological demands at the task level are the ones closest to users, since they are associated with the tasks that users employ technology to perform. The main technological demands are (1) quantitative overload, the degree to which a technology user perceives there is an excess of work generated as a result of the use of technology or network outages (Salanova et al. 2013; Yang and Carayon 1995); (2) mental qualitative overload, the extent to which work with technologies requires excessive attentional demands such as concentration, precision, or multitasking to solve problems in order to prevent or correct errors (Salanova et al. 2007); (3) ergonomic qualitative overload, the extent to which technology causes ergonomic workload, in terms of awkward postures and repetitive movements that can lead to psychosomatic complaints, such as itchy eyes or carpal tunnel syndrome (Tarafdar et al. 2007); (4) continuous pace of technology, the extent to which the user perceives that the time required to perform one or more tasks using technology is less than the time available to do them (Korunka et al. 1995); (5) role ambiguity, the degree to which tasks performed with technologies are vague, unclear, and ill-defined (Salanova et al. 2013); and (6) routine, the degree to which tasks performed with technology are boring, repetitive, monotonous, unchallenging, and not motivating.

Second, technological demands at the social level refer to the relationship people establish with other people at the workplace because of the use of technology. These relationships can be developed with co-workers but also with people outside the organizations (e.g., external clients). The most important social demand is role conflict, i.e., when the technology user perceives a conflict between the use of new and traditional technology, as well as when the user belongs to multiple virtual teams whose modus operandi is completely different (Tarafdar et al. 2007). Social isolation due to the use of virtual relations with colleagues and clients could be another social technostressor. Finally, in the study by Salanova et al. (2013), it was showed that emotional overload and mobbing were also predictors of technostrain at work.

Third, technological demands at the organizational level are those which are related to the maintenance of competitive advantage and to “staying” alive in the labor market: (1) job insecurity, when users perceive that their job is at risk because technologies will replace them or, otherwise, because of “technological unemployment”; (2) organizational culture, the organizational pyramid structure and innovative structure show higher levels of technostress because of the lack of employees’ participation in decision-making and higher levels of international

competitiveness (Wang et al. 2008); (3) technological obstacles such as lack of training regarding ICT (Salanova et al. 2013); and (4) the technology implementation approach: if the implementation is focused on "technology," it will produce technostress, whereas if the implementation is focused on the "end user," it will produce well-being (Salanova et al. 2007).

Finally, technological demands at the extra-organizational level are mainly related to work-family conflict. These are basically produced when there is a conflict between working and personal life which comes about when technologies invade our private life; that is, people need to be connected to answer their e-mail, thus reducing the time available to enjoy life with their family at the weekend, for example.

6.2.2 (Lack of) Technological Resources and Technostress

Other key factors in the development of the technostress experience are the lack of technological resources. Generally, they are defined as "those physical, structural, social and organizational aspects of work with technologies that are functional in achieving goals, reduce the technological demands, and stimulate growing and personal development" (Llorens et al. 2011, p. 53). Again, technological resources can be differentiated into three levels that are detailed below.

First, the main technological resources at the task level are (1) autonomy (the degree of control, responsibilities, and challenges related to work with technologies (Jackson et al. 1993; Salanova et al. 2013)); (2) participation in the process of implementing technologies at work; (3) variety of tasks, (novelty and change in the work environment caused by technology, in terms of the activities and skills that need to be carried out (intrinsic variety) and changes in the environment (extrinsic variety)); and finally, (4) clarity in the task, which refers to the degree to which the role and tasks to be carried out by the technology users are well defined.

Second, technological resources at the social level refer to (1) social networks and trust, which is understood as the contacts within the work context that allow technology users to relate with one another inside as well as outside the organizations in order to avoid the isolation brought out by the use of technology (Zorn 2002); (2) social support climate (personal relationships among technology users and stakeholders (co-workers or supervisors) in which empathy, trust, and instrumental support are exchanged (Salanova et al. 2013)); (3) transformational leadership was also good negative predictor of technostress (Salanova et al. 2013); and (4) feedback, the degree to which the technology user has clear and direct information about the effectiveness of their performance provided by their supervisor, colleagues, and customers themselves (Salanova and Schaufeli 2000).

Third, technological resources at the organizational level are related to healthy practices in human resource development. The presence of these organizational resources promotes the acceptance and use of technology and the development of positive psychosocial consequences on technology users. These resources are the

following: (1) technology-implementing policies focused on the final user, that is, when the user has responsibility for and control over the work instead of technology (Salanova et al. 2007); (2) promoting high-quality training actions for technology in changing contexts (e.g., training workshops related to the new technologies) (Salanova and Llorens 2008); and (3) implementing strategies to balance work-personal life, by means of flexible schedules (e.g., by teleworking), providing benefits and assistance for the care of relatives, and giving advice and training as well as social or extralegal benefits (Salanova et al. 2013).

In addition, we should also mention the extra-organizational resources, which can serve as facilitators of technological change. The main resource at this level is private-work life support from friends and family (e.g., one's own partner). This support makes it possible to combine personal and technological demands and acts as a buffer for the technostress experience (Poelmans et al. 2005).

6.2.3 (Lack of) Personal Resources and Technostress

According to the SMOH Model, personal resources are the key elements to coping with technological demands and low technological resources. There are basically three main personal resources in technostress: (1) coping strategies, (2) assessment of past experience with technologies, and (3) technology self-efficacy.

First, coping strategies (focusing on the problem and on emotion) refer to cognitive and behavioral efforts that are made to control the specific external and/or internal demands that are evaluated as exceeding the individual's resources (Lazarus and Folkman 1984). Research has shown two main coping strategies to deal with technostress: (1) focused on the problem, behaviors to change the situation which enhances technostress (e.g., look for information, attend training courses), and (2) focused on emotions, behaviors to change the emotion felt by the technology users although the problematic situation persists and is accepted (e.g., to see the positive side of technological change) (see Llorens et al. 2011, for more details).

Second, assessment of past experience constitutes another personal resource to cope with technostress. Research has shown that the experience of technology has no direct relationship with technostress, but its (negative) effect depends on (1) the technological resources available to the user and (2) the assessment of past experiences with technology (Chua et al. 1999), that is, by the value, significance, and relevance of the past experience with each person's use of technology. Such users, who assessed the experience of technology in a negative way, will experience technostress (Korunka and Vitouch 1999).

Finally, the most relevant personal resource in coping with technostress is specific self-efficacy regarding technology. Based on the Social Cognitive Theory (Bandura 1997), this refers to the belief in one's capabilities to use technology successfully (Salanova et al. 2000). Research has shown that self-efficacy in technology enhances (1) the desire, effort, and persistence to do activities in

which technology is used; (2) positive emotions related to the use of technology (e.g., satisfaction); and (3) thoughts about success in the use of technology. On the other hand, people with low levels of self-efficacy in technology tend to exaggerate the magnitude of their shortcomings and difficulties in using the technology, which can lead to burnout.

6.2.4 Consequences of Technostress

In addition to the antecedents, there is also empirical evidence regarding the consequences of technostress. Basically, we can classify the main consequences of technostress into four categories, based on the review performed by Llorens et al. (2011): (1) physiological, (2) psychosocial, (3) organizational, and (4) societal consequences.

Regarding the physiological consequences, research has shown that the use/abuse of technology may generate psychosomatic problems in users, such as sleep problems, headaches, musculoskeletal pain, carpal tunnel syndrome, depression symptoms, increased levels of adrenaline and noradrenaline, higher blood pressure and heart rate, and increases in skin conductance. Especially in technoaddiction, sleep deprivation due to the long hours spent using technologies could enhance fatigue, immune system problems, and health deterioration in general (e.g., Thomee et al. 2007).

At the psychological level, technostress may be responsible for anxiety, job dissatisfaction, and a decrease in the levels of work engagement. As a consequence of the technostress experience over a long time, the user could also experience burnout, mainly as a general state of mental exhaustion due to the use of technology. This negative experience leads to an increase in the user's skeptical attitudes toward the usefulness of technologies, which finally enhance the belief that they are not very competent in the performance of their professional duties (Llorens et al. 2007).

Technostress could also generate organizational consequences such as absenteeism and low performance. This reduction in performance could be triggered by the nonuse, misuse, or abuse of technology at work, as well as due to the pervasiveness of technology in human life. In fact, in order to remain up to date in technologies, users have to dedicate long hours of their own personal time to the matter. Other consequences of technostress are represented by low levels of commitment and a low level of intention to remain in the organization (Salanova and Schaufeli 2000).

Finally, technostress may also show its consequences at the societal level. The abuse of technology can significantly reduce the user's social activities. Social networks are also deteriorated, since the user becomes more irritable, with mood changes, and neglects both their working life (e.g., poor communication with peers) and their personal life (e.g., poor relationship with their partner, which can lead to

divorce). In addition, the technology addict spends so much time using technology that societal and financial problems are evident (Douglas et al. 2008).

6.3 Assessing Technostress: The RED Technostress Questionnaire

Policies on Occupational Health Psychology should begin by conducting an accurate assessment of the psychosocial factors deriving from technology use and the technostress experience. Basically, testing the technostress experience seeks to accomplish three main objectives: (1) to identify and test the psychosocial risks due to the use/abuse of technology as a part of the evaluation process, (2) to propose suitable measures to eliminate or mitigate the psychosocial risks from technology, and (3) to improve the security and psychosocial health of technology users and their quality of life.

Despite the great variety of instruments in the form of interviews and checklists that may be used for such purposes, self-report questionnaires are the key tools. One of the most operative, comprehensive, and scientific questionnaires is the RED Technostress (see Llorens et al. 2011; Salanova et al. 2007, 2013).

Its main characteristics are the following: (1) it is based on theoretical models, such as the Spiral Model of Occupational Health; (2) its reliability and validity have been demonstrated in research; (3) it is easy to complete and correct (20 min); (4) it diagnoses the phenomenon of the technostress experience (technostress and technoaddiction), as well as its antecedents and consequences; and (5) it can be completed using the traditional paper format or the online version (www.wont.uji.es). In its online version, the user receives immediate feedback about his/her results in comparison to a baseline value (Llorens et al. 2011; Salanova et al. 2013; Salanova and Schaufeli 2000).

In the studies conducted in Spain with the RED Technostress questionnaire, (1) the samples were made up of individuals from a variety of fields ($N = 1,790$ ICT users) (21 % technical and qualified professionals, 8 % supervisors, 5 % managers, 4 % blue-collar workers, 27 % secondary school teachers, 22 % university lecturers, and 13 % university students); (2) 63 % commonly used ICT (e.g., computers, tablets, PDAs) as just another tool in their work, and 37 % (mainly women) used computers in an intensive way; and the results also showed that (3) technology workers perceived more technological resources and personal resources than technological demands and more positive experiences (e.g., Llorens et al. 2006, 2007; Rodríguez et al. 2008; Salanova and Llorens 2009; Salanova et al. 2003, 2010, 2013) (see Tables 6.1 and 6.2).

Table 6.1 Percentage of technological demands and resources and personal resources perceived by ITC users

Technological demands	Technological and personal resources
60 % emotional overload	74 % positive appraisal of exposure to ICT
57 % work overload	78 % mental competences
60 % technology obstacles	74 % autonomy
39 % role ambiguity	70 % efficacy beliefs related to technology
12 % mobbing	66 % social support
	64 % transformational leadership
	60 % technology facilitators

Table 6.2 Percentage of positive and negative experience perceived by ICT users

Positive experience	Negative experience
84 % enthusiasm	39 % anxiety
81 % satisfaction	34 % burnout
78 % comfort	
78 % organizational commitment	
66 % engagement	
37 % task performance	

6.4 Strategies for Technostress Prevention and Intervention

The intervention process is defined as "... such specific actions to eliminate/reduce sources of stress, their responses or their effects, and optimize health factors and their consequences" (Salanova et al. 2009, p. 50).

Despite the relevance of protecting and promoting employees' (and in our case technology users') well-being, the psychosocial intervention processes remain an ongoing issue in current research, as does their implementation in real organizations. Linking research and professional practice (Research to Practice – R2P) is a challenge for the occupational health psychologist. Based on Salanova et al.'s classification (2009), technostress interventions could be distinguished by (1) the focus (technology users and technical system) and (2) the objective of the intervention (primary, secondary, and tertiary intervention). Below we explain the main prevention-intervention strategies on technostress (for a review, see Llorens et al. 2011; Salanova et al. 2007).

6.4.1 Prevention Strategies on Technostress

Prevention strategies are aimed at healthy individuals (groups) who are not under risk conditions. They are of a general nature oriented toward all technology users and are proactive and very effective (Lamontagne et al. 2007), their aim being to prevent harm. The main prevention strategies in technostress are classified taking

into account: (1) the end users, (2) the organization, and (3) the technological system. These strategies are shown below.

6.4.1.1 Prevention Strategies Focused on the Final User

Survey feedback. This is a strategy based on bidirectional communication between facilitators and participants. It has two objectives: (1) to know more about technostress and (2) to establish improvement strategies that are under the technology users' control.

Technostress workshop. This consists in a work meeting (with practical exercises) to solve technostress in a group of users. This strategy seeks (1) to draw the study of technostress closer to the participants through their own self-diagnosis, (2) to teach them how to apply these processes to their own situation, (3) to become more familiar with diagnostic measures of technostress, and (4) to learn how to discriminate prevention and intervention strategies that are useful for them.

6.4.1.2 Prevention Strategies Focused on the Social System

Information and Communication. This is easy to apply and very beneficial for users. It consists in giving information to users, supervisors, and indeed everybody that could be involved in the changes due to the technology. The main objective is to inform them about (1) the changes in the organization as a consequence of the technology implementation and (2) the results obtained from the technostress diagnosis. This is a good strategy to avoid rumors, resistance to change, boycotts, and the development of negative attitudes toward the use of technology.

Job Redesign. This strategy involves enriching those jobs in which technology should be implemented. Its objective is to promote (1) the development of technology users at the individual, social, and professional levels and (2) the perception of technology as a resource in order to cope with the environment. It implies three types of specific strategies: (1) enriching jobs (i.e., giving more autonomy), (2) clarifying the role (i.e., giving feedback about the job with technologies), and (3) improvement of the ergonomic aspects of technology (i.e., use of ergonomic keyboards).

Participation in Decision-Making. Users of technology can participate in (1) the implementation of technology, (2) the selection of the specific characteristics of the technology, (3) the evaluation of technostress, and (4) the selection of the prevention-intervention strategies to be implemented. The benefits to be gained from participating are the following: (1) it provides a feeling of "gratitude" because the user perceives that his/her opinion is taken into account, (2) it involves a greater commitment to decisions, (3) it reduces the stressful effects of changing technology (technostress experience), (4) it increases the levels of psychological attachment to technology, and (5) it increases the likelihood of technology acceptance.

6.4.1.3 Prevention Strategies Focused on the Technological System

Prevention strategies can also be aimed at changing the system through the technology design. According to research, technology will succeed when three basic criteria are met: (1) the technology design is ergonomic (e.g., use of wireless connections, widescreen displays, ergonomic keyboards) and avoids the appearance of physical problems in users (eye problems, headaches, back pain); (2) it is "usable" and functional in order to ensure the use of technology; and (3) it is friendly, simple, and easy to use successfully, both for experts and for other less proficient users.

6.4.2 Secondary Intervention Strategies on Technostress

Secondary intervention strategies are carried out in individuals and groups that are under risk conditions, with the aim of minimizing or eliminating the risk. These strategies (1) are applied when the first symptoms of psychosocial and/or organizational damage are starting to manifest; (2) are only applied to those users or groups in which a symptom is detected; and (3) have an active agent, i.e., the user, whose role is crucial in the implementation of these strategies (Lamontagne et al. 2007). These strategies are shown below.

6.4.2.1 Secondary Intervention Strategies Focused on the Social System: The User

Tutoring and coaching. The aim of this strategy is to support the user in the development of specific skills in technological innovations. The coach should help the technology user to establish goals, objectives, and work planning and should offer advice to help in the development of their employability. This strategy requires a transformational leader to guide technology users and to help them solve problems, but it also gives rise to questions and even the expression of positive emotions that can spread to other employees.

6.4.2.2 Secondary Intervention Strategies Focused on the Social System: The Organization

Team Building and Team Development. This involves the creation of stable work teams through a series of activities and exercises (e.g., testing prototypes, outdoor training). These strategies allow technology users to identify themselves with the team goals and objectives by promoting group cohesion and effectiveness. The creation of these groups is even more important in these technological contexts

where the groups have the power to solve any problems generated as a result of the use/abuse of technology.

6.4.2.3 Secondary Intervention Strategies Focused on the Technical System

Replacement Technologies. This strategy is related to changing technology that has become obsolete, useless, barely usable, "unfriendly," or ergonomically stressful. The decision to replace technologies could be determined as a result of the team building and team development strategy, outlined earlier.

6.4.3 Tertiary Intervention Strategies on Technostress

Finally, tertiary intervention strategies are carried out in individuals and groups who are sick, where technostress has appeared with the full range of all its symptoms. Its aim is to reduce the severity or disability associated with technostress by trying to help people recover. These strategies are (1) therapeutic and attempt to recover and rehabilitate workers and groups that have suffered from technostress and (2) reactive, since they are applied once all the damage has been done. This last objective is the reintegration and/or rehabilitation of users who have suffered technostress in their workplace. These strategies are as follows.

6.4.3.1 Tertiary Intervention Strategies Focused on the Social System: The User

Counseling and psychotherapy. Briefly, both are related to psychosocial treatment, and obviously the user should be sent to an expert. The aim is to make the user aware that he/she has a psychological problem, to eliminate negative reactions, to increase confidence as well as positive attitudes toward technology, and to help him/her regain control over the use of technology. In general, these strategies imply that users actively learn to take responsibility for their behavior and to realize the situation is under control. To be successful, these strategies should be controlled and guided by a specialist, but they also involve working with the group (especially peers, tutor, supervisor, and even the family), which has to receive and reintegrate the technology user.

6.4.3.2 Tertiary Intervention Strategies Focused on the Social System: The Organization

This last strategy is focused on promoting the institutionalization of prevention services in order to promote the overall health of employees. The aim of this strategy is to ensure the care and the overall well-being of workers, and by extension technology users, in the organization. It involves the assessment of future and proactive needs and organizational changes derived from the culture of creativity and innovation in the organization. It also involves planning and monitoring the implementation of prevention-intervention measures to deal with technostress. Generally, this strategy reveals the relevance of integrating prevention within the company, which should be seen as a priority in organizations.

6.5 Concluding Remarks

Despite the relevance of technology nowadays, psychological consequences such as technostress could be experienced in non-intensive as well as intensive technology users. In order to facilitate the interventions, it is relevant to diagnose it in a correct way. For this reason, it is important to conceptualize technostress as an umbrella attending to both typologies of technostress, i.e., technostress and technoaddiction experiences. Furthermore, we must distinguish among the experience of technostress (technostress and technoaddiction) and their predictors and consequences. To achieve this objective, the Spiral Model of Occupational Health and specifically the RED Technostress questionnaire are a scientific and operative way to explain and measure the technostress experience. According to this, technostress could be assessed attending to three fundamental "ingredients": technological demands, technological resources, and personal resources. In particular, (the lack of) specific self-efficacy with technology has been shown to be a key element in the determination of technostress. Also the model and the questionnaire establish the main consequences of technostress. These consequences should be oriented to capture not only the idiosyncratic character of the phenomenon (physiological and psychological) but also the organizational and societal problems derived from technostress. If the evaluation and diagnosis of technostress are important, also the strategies for preventing and intervening are a key subject. From a practical point of view, it is recommended to select the better strategy attending to the objective (prevention, secondary, and tertiary interventions) and the focus (on the users of technology, the organization, and the technical system) of the intervention. At this point, we have to highlight the need to combine the strategies in order to intervene in technostress in a suitable way.

In sum, in this chapter, we have shown that technology has the power to make our lives easier, but sometimes it fails to do so. Thus, the dark side of technologies has reared its head in the form of technostress. We really would like to encourage

researchers, practitioners, organizations, governments, and society in general to establish mechanisms that make it possible to turn technology into our ally. Nevertheless, more research is needed in order to better understand the mechanisms underlying technostress, as well as ways to prevent it in today's organizations and societies.

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